

IAV Indicar

The Indication System from IAV

The Flexible Indication System

IAV Indicar is a portable and fast indication system capable of real-time signal processing. It can be used for recording, computing and evaluating cylinder pressure curves.

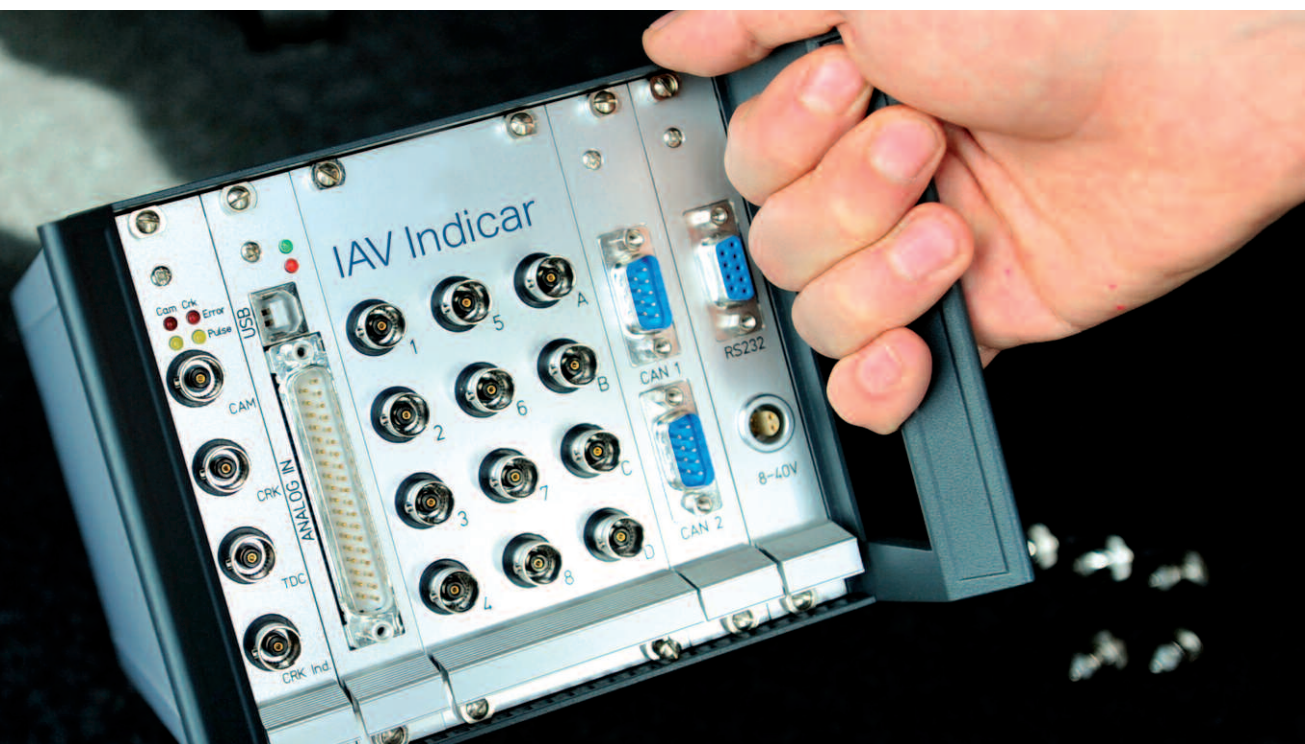
As many as eight cylinder pressure signals can be recorded with cycle accuracy and processed in real time under thermodynamic aspects. All recordings can be transferred by interfaces to a calibration system such as INCA or CANape. The raw data measured and data computed are provided in various formats for further analyses.

Users can work with the ready-made thermodynamic block sets supplied with the system or employ their own MATLAB/Simulink algorithms for processing signals.

The package includes the tried and proven Indicar Commander software for configuring the system and recording data.

IAV Indicar Front Panel

- *Eight analog inputs (differential, +/-10 V, 16 bit, 400 kHz, with common electrical isolation)*
- *Four additional inputs (differential, +/-20 V, 16 bit, 1 kHz, with common electrical isolation)*
- *Interfaces (2 x CAN, USB 2.0, 10 Mbit/s SSI, RS232)*



IAV Indicar



Compact dimensions for versatility



Configuration using Indicar Commander



Rapid start-up after "terminal 15 ON" with memory-resident configuration

Benefits

- Fast, compact, flexible
- Evaluation of cylinder pressure in real time, e.g. for closed-loop control of PMI and main center of heat release
- Cycle-accurate recording of characteristics in the calibration system
- Advanced users can develop and write their own evaluation algorithms with MATLAB/Simulink and then add them to the system
- Automatic determination of the ITDC angle

Technical Specifications

Analog inputs	8 analog, differential, +/- 10 V, with common electrical isolation (standard, other options on request), 400 kHz sampling frequency, 16 bit
Additional modules	Addition inputs and outputs to customer specifications
Data recording	Angle and time-based recording, real-time processing
Resolution	16-bit resolution with an interval of 0.1° CA
Evaluation	Simulink blocks for standard variables (COHR, IMEP etc.) are included For special applications: Evaluation by means of user algorithms written in MATLAB/Simulink and automatically code-generated
Signal processing	FPGA, 400 MHz floating-point DSP, digital filters up to the order of 1200, e.g. for knock detection
Interfaces	2 x CAN, USB 2.0, 10 Mbits/s SSI, RS232
Additional inputs	4 x analog, differential, +/- 20 V, with common electrical isolation, 16 bit, 1 kHz
Outputs	4 relay outputs
Angle signals	Inputs for angle encoder and 60-2 wheel
Power supply	7-40 VDC, 12 W or 230 VAC
Dimensions	300 mm x 180 mm x 130 mm or 19-inch for rack mounting
Weight	~ 3 kg